



Geologic Resource Evaluation Program



Bedrock and surficial geology information provides the foundation for studies of groundwater, geomorphology, soils, and environmental hazards. Cedar Breaks National Monument, Utah.

Under the Natural Resource Challenge, a program to advance the management and protection of park resources, the National Park Service has accelerated efforts to inventory the natural resources of parks. The Geologic Resource Evaluation (GRE) Program, administered by the NPS Geologic Resources Division, provides each of the 272 "natural area" parks with a digital geologic map, a geologic evaluation report, and a geologic bibliography. Each product supports the stewardship of park resources and each is designed to be user friendly to non-geoscientists.

Scoping Meetings - The GRE team holds scoping meetings at each park to review available data on the geology of the park and to discuss the geologic issues in the park. Much of what we learn about the extent and quality of existing map coverage and geologic resources issues comes from these scoping meetings. Although scoping meetings are usually held in each park individually to expedite the process, some scoping meetings

are multipark meetings for an entire Vital Signs Monitoring Network. Meeting participants include the park superintendent, interested park staff, U.S. Geological Survey geologists, state survey geologists, academic and private sector geologists, and other interested parties. Generally, it requires an entire day to review the available geologic maps and bibliography and to discuss the geologic management issues of the park.

Geologic resources serve as the foundation of park ecosystems and yield important information needed for park decision making.

Each Geologic Resource Evaluation product is a tool to support the stewardship of park resources and each is designed to be user friendly to non-geoscientists.

Digitized Geologic Maps - Digitized geologic maps are a key component of the GRE Program. If existing maps are not available, additional mapping needs are identified at the scoping meeting, and supplemental funds may be available to complete the mapping. Partnering with other federal, state and academic groups has been an effective way to obtain new geologic data. For example, these funds have been used for ongoing projects with the USGS in Death Valley National Park, the Utah Geological Survey in Glen Canyon National Recreation Area and Stanford University at Great Basin National Park. The goal is to provide quality geologic maps in a digital format to park management in a way that can be understood by nongeologists. Completed digitized geologic maps can be found on the Internet at : <http://science.nature.nps.gov/nrftp>.

Geologic Resource Evaluation Reports -

The GRE report identifies geological features and processes that are important to the ecosystem of the park, the report addresses how these features and processes have been impacted by human activity, how important these features and processes are to park management, and any special characteristics of the feature and processes of which park managers need to be aware. The report also identifies research and monitoring needs and opportunities for education and interpretation. Below is a brief outline of the report format.

Geologic Resource Evaluation Report

*Executive Summary
Geologic Overview
Geologic Features and Processes
Formation Properties
Geologic Issues
Appendices:
 PMIS Statements
 Contact List
 Glossary
 AGI Report
 Geologic Map
 Geologic Cross-sections
 Bibliography*

Geologic Bibliography - The bibliography serves as a consolidated clearinghouse for geologic references for each park in the GRE inventory. It is a source for further reading, investigation, and research. The geologic bibliography is generated for each park and



Utah Geological Survey geologists showcase recent geologic mapping during a scoping session at Zion National Park, Utah. Geologic maps describe the underlying physical habitat of the natural systems that are integral components of an ecosystem.

posted on the NatureBib website*. Sources for the bibliography include the American Geological Institute (AGI) GeoRef, U.S. Geological Survey GeoIndex, and Procite information from specific park libraries. Bibliographic compilations are validated by GRE staff and become part of a Microsoft Access database keyed to park, author, year of publication, title, publisher, publication number, and a miscellaneous field for notes.

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*For additional information see: <http://science.nature.nps.gov/im/apps/npbib/index.htm>